

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

NINETEENTH CONGRESS
First Regular Session

House Bill No. **6286**



Introduced by Representative PABLO JOHN F. GARCIA

EXPLANATORY NOTE

The Constitution provides that “Science and technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services [x x x].”¹ It likewise states that “The Congress may provide for incentives, including tax deductions, to encourage private participation in programs of basic and applied scientific research. Scholarships, grants-in-aid, or other forms of incentives shall be provided to deserving science students, researchers, scientists, inventors, technologists, and specially gifted citizens.”²

Section 5(5) of Article XIV also provides, “The State shall assign the highest budgetary priority to education and ensure that teaching will attract and retain its rightful share of the best available talents through adequate remuneration and other means of job satisfaction and fulfillment.”

Based on the World Economic Forum’s Readiness for the Future of Production Report 2018, the Philippines is not yet prepared to manage the Fourth Industrial Revolution as manifested in its weak performance across the drivers of production, which include technology and innovation, human resources, global trade and investment, institutional framework, sustainable resources, and demand environment, among others.³ The Fourth Industrial Revolution is a way of describing the blurring of boundaries between the physical, digital, and biological worlds.⁴

¹ Const. art. XIV, § 10.

² Const. art. XIV, § 11.

³ See generally World Economic Forum, *Readiness for the Future of Production Report 2018*, available at http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf.

⁴ Devon McGinnis, *What Is the Fourth Industrial Revolution?*, available at <https://www.salesforce.com/blog/what-is-the-fourth-industrial-revolution-4ir/>.

As with any industry or endeavor, human resources are the most crucial element.⁵ It is the key engine of progress. The ingenuity and intellectual potential of Filipinos should be fostered to enable our country to be more prepared for this world ever-barreling towards the Fourth Industrial Revolution. And as we aim to bounce back from the COVID-19 pandemic, all aspects of the economy, not just tangible industries such as the agricultural and manufacturing sectors, must be empowered to help with this national revival—including the Knowledge Economy.

The concept of the Knowledge Economy may be defined as production and services based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence.⁶ The key component of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources.⁷

This sphere of activity is quite vast and involves anything that relates to the productive application of knowledge. The movers of this economy include researchers, entrepreneurs, scholars, inventors, innovators, and every Filipino in between whose minds dwell on what's possible for the better.

This bill aims to catalyze the Knowledge Economy by infusing greater incentives and resources to its most important component—the people who belong to it. This bill will seek more funding for activities such as the expansion of scholarships and training, the implementation of entrepreneurship-related courses, the creation of skills development programs, and other endeavors focused on innovation and empowerment. It also desires to create more jobs, strengthen institutions, and reduce poverty.

It is hoped that this measure will help spark a wildfire of creativity and excellence that will permeate the nation. May this help us bounce back from this pandemic in the short-term and set a stronger foothold for long-term intellectual progress.

In view of the foregoing, the urgent passage of this bill is earnestly sought.



Rep. PABLO JOHN F. GARCIA
3rd District, Province of Cebu

⁵ For more information about the DOST's HR blueprint, see Department of Science and Technology, *Science and Technology Human Resource Development Plan 2017-2022*, available at <https://sei.dost.gov.ph/images/downloads/publ/hrdpplan2017-2022.pdf>. See also Albert, Tabunda, et. al., *Future S&T Human Resource Requirements in the Philippines: A Labor Market Analysis*, available at <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2032.pdf>.

⁶ Walter Powell and Kaisa Snellman, *The Knowledge Economy*, 30(1) Annual Review of Sociology 199 (2014), available at <https://doi.org/10.1146/annurev.soc.29.010202.100037>.

⁷ *Id.*

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AN ACT
STRENGTHENING THE KNOWLEDGE ECONOMY HUMAN RESOURCES OF
THE PHILIPPINES BY INCREASING THE APPROPRIATIONS FOR
SCHOLARSHIPS, SCIENTIFIC RESEARCH, INNOVATION AND ENTERPRISE,
EDUCATION AND SKILLS TRAINING, AND FOR OTHER PURPOSES

Be it enacted by the House of Representatives and the Senate of the Congress of the Philippines in session assembled:

CHAPTER I
PRELIMINARY PROVISIONS

Section 1. *Short Title.* - This Act shall be known as the “*Knowledge Economy Human Resources Development Act*”.

Section 2. *Declaration of Policy.* - Science and technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and service. It is hereby declared the policy of the State to foster inclusive and sustainable growth through an innovative Knowledge Economy. To achieve this end, the State shall infuse more resources to promote the advancement of raw scientific learning and research; their productive application towards entrepreneurial, industrial, and other developmental uses; and the enhancement of overall Filipino education and skills development. The State shall likewise support the Science for Change Program (S4CP) of the Department of Science and Technology.

The State shall also aim to:

(a) Achieve the United Nations Educational, Scientific and Cultural Organization benchmark of 380 researchers, scientists and engineers per million population;

(b) Increase the government's Research and Development expenditure to at least one percent (1%) of the Gross Domestic Product; and

(c) Align all efforts in the Knowledge Economy to achieve greater employment, less wealth inequality, and the elimination of poverty.

Section 3. *Knowledge Economy Defined.* - The Knowledge Economy is an economic system in which production and services are based on knowledge-intensive activities that contribute to an accelerated pace of technical and scientific advance, as well as rapid obsolescence. The key component of a knowledge economy is a greater reliance on intellectual capabilities than on physical inputs or natural resources. It includes every endeavor concerning the productive generation and application of knowledge to areas such as scientific research, information and communications technology, engineering, innovative entrepreneurship, industrial activity, education and skills development, and the like.

CHAPTER II FRAMEWORK, FUNCTIONS, AND ROLES

Section 4. *Role of the National Innovation Council.* - The National Innovation Council ("NIC") created under Republic Act No. 11293, otherwise known as the "Philippine Innovation Act", shall put the development of human resources for the knowledge economy at the forefront of the National Innovation Agenda and Strategy Development.

Section 5. *Government-Industry-Academe Synergy.* - To promote synergy among the government, the industrial sector, and the academe, the Secretary of Science and Technology, Director General of the National Economic and Development Authority, Secretary of Trade and Industry, Secretary of Labor and Employment, Chairperson of the Commission on Higher Education, Secretary of Education, and the Executive Members of the National Innovation Council shall form a Knowledge Economy sub-group under the NIC.

Section 6. *Role of the Department of Science and Technology.* - The Department of Science and Technology ("DOST") shall ensure that Filipino scientists, teachers, researchers, and innovators are given full support and that all the benefits under this Act and other laws are given to them to promote their participation in the human resources of government or private institutions to accelerate the progress of

the nation. It shall provide such scholarships, stipends, research grants, and other incentives as may be necessary to deserving Filipino thinkers in line with the declared policies of this Act.

The DOST shall likewise foster a culture conducive to science and technology in the country and encourage the participation of all sectors in the Knowledge Economy.

Section 7. *Role of the National Economic and Development Authority.* - The National Economic and Development Authority (“NEDA”) shall monitor the development of the Knowledge Economy and its human resources and shall accordingly advise the NIC and/or the above sub-group of desirable actions that may be taken in order make the Knowledge Economy complement or otherwise conform with the country’s socioeconomic policies, plans and programs. The NEDA shall ensure that these endeavors shall be continuing, coordinated, and fully integrated.

Section 8. *Role of the Department of Information and Communications Technology.* - The Department of Information and Communications Technology (“DICT”) shall see to it that the country’s information and communications technology agenda conforms with Knowledge Economy goals. It shall ensure, among others, that government scientists and researchers as well as public schools, universities, and colleges have adequate access to internet facilities and communications infrastructure. It shall align its projects to ensure that technological development shall reach and empower those who have the least access to knowledge resources and opportunities.

Section 9. *Role of the Department of Trade and Industry and the Department of Labor and Employment.* - The Department of Trade and Industry (“DTI”) shall make sure that Knowledge Economy capacity-building resources and materials are available to promising Filipinos who seek to capitalize on innovative knowledge-based businesses, industries, and other enterprising activities. The DTI shall also incentivize start-ups and Micro, Small, and Medium Enterprises related to these. The DTI shall likewise implement a workforce development program for skills conversion and upgrading and the enhancement of employability of workers outside the knowledge-based sector.

The Department of Labor and Employment (“DOLE”) in turn shall ensure that jobs and opportunities concerning the Knowledge Economy, particularly those closely associated with it such as fields in science, engineering, research, technology, data, and the like, are promoted and offered as much as possible to Filipinos.

Section 10. Role of the Commission on Higher Education and the Department of Education. - The Commission on Higher Education (“CHED”) and Department of Education (“DepEd”) shall ensure that up-to-date and age-appropriate lessons as well as the proper encouragement concerning Knowledge Economy careers, resources, opportunities, seminars, training, and the like are made available to those whom they respectively cater to. They shall incorporate lesson plans and skills development programs that capacitate Filipinos towards more participation in the Knowledge Economy, with due regard to academic freedom.

CHAPTER III APPROPRIATIONS

Section 11. Appropriations. - In order to fulfill the declared policies and goals of this Act, the following amounts, or so much thereof as may be necessary, are hereby appropriated to strengthen the Knowledge Economy human resources development of the Philippines on top of any amounts that the funds mentioned in this provision may already have under the annual General Appropriations Act:

(a) One billion pesos (Php 1,000,000,000.00) for an increase in the Science and Technology Scholarship Fund under the DOST, as provided in Republic Act No. 7687 otherwise known as the “Science and Technology Scholarship Act of 1994” and Republic Act No. 10612 otherwise known as the “Fast-Tracked S&T Scholarship Act of 2013”. An additional one billion pesos (Php 1,000,000,000.00) shall be appropriated to the Fund per year for a period of five years;

(b) One billion pesos (Php 1,000,000,000.00) for an increase in the National Broadband Plan program under the DICT for information and communications technology infrastructure for scientists, researchers, public schools, universities, colleges, and needful areas as provided under Section 8 of this Act;

(c) Five hundred million pesos (Php 500,000,000.00) for the activities of the DTI and DOLE concerning capacity-building, entrepreneurship, innovation, and employment as provided under Section 9 of this Act; and

(d) Five hundred million pesos (Php 500,000,000.00) for an increase in the Philippine Science High School System for capital outlay; Five hundred million pesos (Php 500,000,000.00) for an increase in the Higher Education Development Program of the CHED for lessons, training, and skills development programs; and Five hundred million pesos (Php 500,000,000.00) for public science high schools under the DepEd.

**CHAPTER IV
FINAL PROVISIONS**

Section 12. *Implementing Rules and Regulations.* - The National Innovation Council shall issue within sixty (60) days from the effectivity of this Act the necessary rules and regulations for the effective implementation of this Act.

Section 13. *Repealing Clause.* - All laws, executive orders, proclamations, rules, regulations and other issuances or parts thereof which are inconsistent with the provisions of this Act are hereby repealed, amended, or modified accordingly.

Section 14. *Separability Clause.* - If any part or provision of this Act is held unconstitutional or invalid, other parts or provisions thereof which are not affected shall continue to remain in full force and effect.

Section 15. *Effectivity.* - This Act shall take effect fifteen (15) days following completion of its publication in at least two (2) newspapers of general circulation.

Approved,